

DIXON. (SAM'L G.)

POSSIBILITY OF ESTABLISHING TOLERANCE
for the TUBERCLE-BACILLUS.



BRANCHED TUBERCLE BACILLI.

OBSERVED IN 1889.



REPRINT FROM THE MEDICAL NEWS,
OCTOBER 19, 1889.

POSSIBILITY
OF
ESTABLISHING TOLERANCE
FOR THE
TUBERCLE BACILLUS.

DURING the last summer I spent much time in bacteriological laboratories abroad, studying the different methods of manipulation and technique. The first culture given me to stain by Prof. Klein, at the College of State Medicine, London, contained tubercle bacilli. The tube had been kept in an incubator used by all the students in the College, not only for legitimate purposes, but for warming of staining materials, and, therefore, it goes without saying, that the temperature was not at all constant. The first slides prepared from this culture showed club-shaped bacilli. Suspecting a lower degree of virulent life, I permitted the tube to remain at the temperature of the room for several days, before staining a second series of slides. Upon these I found many bacilli in the forms represented in the accompanying cut. When Prof. Klein's attention was called to the newly discovered forms of bacilli, he expressed much surprise, and was unable to account for the change in their forms, and yet was quite certain that the tube in question was inoculated with bovine tubercle bacilli after the method generally employed. From this tube I made a series of tube inoculations, and grew bacilli which in every respect

corresponded to the ordinary tubercle bacillus. From the facts already given, I have seen fit to institute a series of experiments, the results of which will be published from time to time, and which lead to the following thoughts.

In considering a means for overcoming infection by tuberculosis it is probable that a condition of tolerance to the action of the tubercular bacillus must first be established. To this end two hypotheses may be suggested :

First. It is possible that, by a thorough filtering out of bacilli from tubercular material, a filtrate might be obtained and attenuated so that by systematic inoculations a change might be produced in living animal tissues that would enable them to resist virulent tubercle bacilli.

Second. To bring about a chemical or physical change in living tissues that would resist tubercular phthisis, it is possible that inoculations with the bacillus would have to be made ; yet, before this could be done, the power of the virulent bacilli would have to be diminished, otherwise the result would be most disastrous.

The accompanying cut represents tubercle bacilli in other forms than those heretofore recognized, and it is possible that they represent the condition of bacilli necessary to prove the truth of the second hypothesis, particularly as animals inoculated with these organisms have survived subsequent inoculations with virulent tubercle bacilli.

Samuel G. Dixon, M.D.

Professor of Hygiene, University of Penna.

